

Appl. No. 10/766,702

Preliminary Amendment to RCE in Response to Office Action of December 5, 2005

IN THE CLAIMS

1. (Currently Amended) A method of coating a substrate ~~coating composition for applying to substrates~~ subject to incursion of moisture with a coating composition to resist moisture penetration into the substrate coated with the coating, the method comprising:
applying to a surface of the substrate a coating composition, the coating composition prepared by a process comprising:
heating and blending together a mixture comprising waxes and paraffins and dispersing powdered metal, metal oxide, or metal carbide throughout the mixture; and
cooling the mixture to form a waxy solid substantially free of entrained gasses with powdered metal, metal oxide or metal carbide dispersed therein; and
forming a homogeneous coating on the substrate surface wherein the waxy solid is ~~substantially free of entrained gasses; wherein~~ without need to apply heating need not be ~~applied to render a coating of the composition homogeneous when applied to a substrate;~~
~~and wherein~~ so that moisture incursion into the coated substrate is reduced by at least about 50% as compared to an uncoated substrate under the same temperature and moisture conditions.
2. (Currently Amended) The method ~~coating composition~~ of claim 1, wherein the mixture comprises a mixture of beeswax and paraffins.
3. (Currently Amended) The method ~~coating composition~~ of claim 2, wherein the paraffins comprise primarily aliphatic hydrocarbons having chain lengths in the range from about 18 to about 36 carbon atoms.
4. (Currently Amended) The method ~~coating composition~~ of claim 1, wherein the metal comprises aluminum.
5. (Currently Amended) The method ~~coating composition~~ of claim 1, wherein the metal oxide comprises titanium oxide or aluminum oxide.

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6. (Currently Amended) The method ~~coating composition~~ of claim 2, wherein the metal comprises aluminum.
7. (Currently Amended) The method ~~coating composition~~ of claim 2, wherein the metal oxide comprises titanium oxide or aluminum oxide.
8. (Currently Amended) The method ~~coating composition~~ of claim 1, wherein the mixture, before addition of powdered metal or metal oxide, has a melting point in the range of about 120 to 200°F.
9. (Cancelled) ~~The coating composition of claim 1, wherein, the composition cools to ambient temperature substantially free of occlusion of gas bubbles.~~
10. (Currently Amended) The method ~~coating composition~~ of claim 1, wherein the composition is a solid at temperatures in the range below about 140°F, and liquefies upon heating to a temperature in the range from about 170 to about 190°F.
11. (Currently Amended) The method ~~coating composition~~ of claim 10, wherein the applying comprises applying a liquefied composition ~~physical properties of the liquefied composition enable application of the composition to a surface by spraying, painting with a brush or applying with a roller.~~
12. (Currently Amended) The method ~~coating composition~~ of claim 1, wherein the powdered metal or metal oxide or metal carbide comprises a sufficient amount to permit uniform heating of a mass of the composition, and to provide such internal compression of a mass of the composition upon cooling as to substantially exclude occluded gasses from a cooled mass.

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13. (Currently Amended) The method coating composition of claim 1, wherein the amount of powdered metal or metal oxide in the mixture comprises from about 5 to about 15 wt. %, based on the weight of the mixture.
14. (Currently Amended) The method coating composition of claim 1, wherein the applying comprises applying to when-coated-onto a composite material subject to moisture absorption under hot and wet ambient conditions, and the formed coating composition reduces moisture absorption by from about 60 to about 100% as compared to an uncoated composite.
15. (Currently Amended) A method of coating a composite with a composition resistant to penetration by moisture, the composition substantially preventing moisture absorption into a composite otherwise subject to moisture absorption under hot and wet ambient conditions, the method comprising:
applying to a surface of the composite a the composition comprising:
a) a mixture of esters of fatty acids and aliphatic hydrocarbons having a melting point in the range from about 170 to about 190°F; and
b) a powdered additive in sufficient amount to permit uniform heating of a mass of the composition and to provide compression of a mass of the composition upon cooling sufficient to substantially exclude occluded gasses from a cooled mass;
forming a coating on the composite surface without need to heat the applied composition
~~wherein the composition comprises a waxy solid at room temperature; and wherein when the molten composition is applied to a substrate to form a coating, the coating does not require heating to render the coating homogeneous.~~
16. (Currently Amended) The method coating composition of claim 14, wherein the mixture comprises paraffins and waxes, the paraffins primarily having a chain length of from about 18 to about 36 carbon atoms.

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17. (Currently Amended) The ~~coating composition~~ method of claim 15, wherein the powdered additive is selected from the group consisting of powdered metals, metal carbides and metal oxides.
18. (Currently Amended) The ~~coating composition~~ method of claim 16, wherein the powdered additive comprises powdered aluminum comprising particulates in the range from about 25 to about 60 microns.
19. (Currently Amended) The ~~coating composition~~ method of claim 17, wherein the powdered additive is selected from aluminum and titanium oxide.
20. (Currently Amended) The ~~coating composition~~ method of claim 14, wherein the composition ~~comprising~~ comprises a solid at ambient temperatures in the range below about 140°F.
21. (Currently Amended) The ~~coating composition~~ method of claim 14, wherein the forming of a coating when coated onto a composite material ~~subject to moisture absorption under ambient conditions of temperature and humidity, the composition~~ forms a coating that reduces moisture absorption by from about 60 to about 100%.